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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,317	12/23/2003	Yasuhiro Nakamura	K06-16549M/TBS	5570

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EXAMINER
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BOEHLER, ANNE MARIE M

ART UNIT	PAPER NUMBER
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3611

DATE MAILED: 04/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/743,317

Applicant(s)

NAKAMURA ET AL.

Examiner

Anne Marie M. Boehler

Art Unit

3611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5 and 6 is/are rejected.
- 7) ☒ Claim(s) 3 and 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/06/2005 and 5/18/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_

1. Claim 1 is objected to because of the following informalities: In claims 1, line 1, "-type" should be deleted. Appropriate correction is required.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Etsuro (JP 2001108025).

Etsuro shows a power steering system with a drive gear 71 on the output shaft of motor 6. A bearing 17 supporting the end of drive gear 71 distal from the motor is spring biased toward the drive gear by a resilient member. Figure 5 shows an embodiment of the resilient member that includes a curved leaf spring 31 that is longer than the outer periphery of the bearing and that has ends 31c inserted to a recess in the bearing support 81.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Etsuro.

Etsuro shows the ends of the spring inserted into a recess that is proximal to the axis of the driven gear relative to the drive gear. However, it would have been an obvious reversal of parts to position the recess on the opposite side of the support.

6. Claims 1, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al. (PGPub. 2001/0040067) in view of Eda (PGPub. 2004/0245040).

Murakami shows an electric power steering system including a drive gear 7 on the output shaft of motor 6 and in mesh with a driven gear 72. A bearing 10 supports an end of the drive gear, distal the motor. The bearing is mounted in a support portion 8 by an elastic member or spring 81 that biases the drive gear in the direction of the driven gear. Murakami teaches, in paragraph 124, that the elastic member may be formed of a plate spring formed of metal. In paragraph 125, Murakami teaches the spring may also be used to reduce rattling in the axial direction and prevent backlash.

It is not clear from the Murakami disclosure if the plate spring is longer than the outer periphery of the bearing.

Eda shows a spring mounted to support an end of a drive gear 2. Eda shows several embodiments, including one that is an elastic member, similar to that of Murakami. An alternative to the elastic member, taught by Eda, is the leaf spring, shown in Figures 18A, 18B. The curved leaf spring of Eda is clearly longer than the outer periphery of the ring it surrounds.

It would have been obvious to one of ordinary skill in the art to replace the elastic member of Murakami with a leaf spring that is longer than the peripheral length of the bearing, as taught by Eda, in order to provide an inexpensive and simple to manufacture alternative spring.

7. Claims 3-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Muraki shows an elliptical bearing support hole.

Segawa, Watanabe, Iwasa, and Kinme each show a spring bias for a drive gear.

Tsutsui shows a leaf spring axially biasing a drive gear 71.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne Marie M Boehler whose telephone number is 571-272-6641. The examiner can normally be reached on 7:30-5:00, Monday-Thursday, and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley Morris can be reached on 571-272-6612. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*anne boehler* 4/21/05  
ANNE MARIE BOEHLER  
Primary Examiner